

Understanding immunotherapy

Information for patients



What is immunotherapy?

Immunotherapy (also known as biological therapy) is a treatment that uses a person's own immune system to fight cancer.

It uses drugs to change how the immune system works and help it to find and attack cancer cells.

What is the immune system?

The immune system consists of cells, tissues and organs in the body which protect it from infection and some diseases.

It is a very complex system where the different parts work together to identify and kill:

- organisms that invade the body such as bacteria and viruses
- abnormal cells that develop in the body such as cancer cells.

The immune system recognises these organisms or abnormal cells as being different to normal healthy cells. It then tries to kill or destroy them through a series of events known as an immune response.

The immune system and cancer

Even though the immune system can recognise and kill some cancer cells, it can't always stop cancers from developing. Cancer may develop when the immune system is:

- unable to find cancer cells
- not strong enough to kill the cancer cells it finds
- tricked by the cancer cells to stop the immune system recognising them.

How does immunotherapy work?

There are several types of immunotherapy drugs that work in different ways:

- monoclonal antibodies – help the immune system recognise and attack cancer cells
- immunomodulators – boost the immune system to be more active
- immune checkpoint inhibitors – remove the barriers to the immune system and increase its ability to fight the cancer
- vaccines – use the immune system to help prevent illnesses e.g., HPV vaccine to prevent cervical cancer
- CAR T-cell therapy – takes some of the patient's immune cells (T-cells) and changes them so they will attack the cancer.

How is immunotherapy given?

Immunotherapy can be given:

- by mouth as tablets or capsules
- through a drip into a vein
- by injection under the skin or into a muscle

Who decides if I need immunotherapy?

Your doctor works with a team of other doctors, nurses and allied health professionals. This is called a multidisciplinary team (or MDT). The team works out the best treatment for you.

Your doctor will explain how each treatment could help you, and whether you are likely to get any side effects.

Not all cancers can be treated with immunotherapy.

What are the side effects of immunotherapy?

Immunotherapy can sometimes make the immune system overactive, and cause it to attack healthy cells in the body. This can cause side effects known as immune-related adverse events or irAEs.

Immunotherapy side effects:

- usually occur within the first 12 weeks of treatment but can happen at any time, **even after treatment has finished**
- may affect any part of the body
- may be mild but can get worse quickly and become severe.

Check yourself regularly for the signs and symptoms in the table. It is important that you tell your treatment team as soon as you notice any of them.

Body part	Signs and symptoms	
Skin and mouth	<ul style="list-style-type: none"> • Rash or itchy skin • Blistering or peeling skin • Yellow skin 	<ul style="list-style-type: none"> • Blueish or red skin (particularly in fingertips) • Mouth sores
Eyes	<ul style="list-style-type: none"> • Yellowing of the whites of the eyes 	<ul style="list-style-type: none"> • Changes in vision – blurry vision, double vision, or loss of vision
Bowels	<ul style="list-style-type: none"> • Diarrhoea • Abdominal pain 	<ul style="list-style-type: none"> • Bloody, dark or sticky stools (bowel motions, poo) • Nausea and vomiting
Bladder/Kidneys	<ul style="list-style-type: none"> • Changes to the colour of your urine (wee): pink, red or dark • Blood clots in your urine 	<ul style="list-style-type: none"> • Changes to how often you pass urine or the amount you pass • Pain in your back or your bladder
Lungs	<ul style="list-style-type: none"> • A new cough • Shortness of breath 	<ul style="list-style-type: none"> • Wheezing • Chest pain
Legs, feet, arms, and hands	<ul style="list-style-type: none"> • Swollen legs feet or ankles • Weakness in your muscles, or arms or legs 	<ul style="list-style-type: none"> • Numbness and/or tingling
Other	<ul style="list-style-type: none"> • Headache • Changes in appetite • Fatigue (feeling tired) • Bleeding or bruising more easily than normal • Feeling more cold or hot than normal • Changes in your heart rate 	<ul style="list-style-type: none"> • Changes in weight • Changes in balance • Fever • Feeling dizzy or fainting • Confusion and having trouble concentrating

How will I know if it is working?

You will have regular appointments with your doctor. They will examine you and order tests to see how your cancer is responding to your treatment.

Questions to ask

It is important for you and your family to ask questions and be involved in making decisions about your treatment. For example:

- What immunotherapy are you recommending?
- Do I have immunotherapy on its own or with other types of cancer treatment?
- What is the aim of my immunotherapy?
- How often will I have it?
- Who should I contact if I have any questions or concerns?
- What side effects could I get?
- Who should I contact if I have side effects?
- Is there anything I should do to prepare for immunotherapy?
- How will we know if it is working?

Who to contact in an emergency

Daytime: _____

Night/weekend: _____



For information for patient and carers please scan the QR code.